



September 26, 1997

TO: Representative Larry Crouse
Chair, [House Energy and Utilities Committee](#)

FROM: K.C. Golden
Assistant Director

SUBJECT: Electricity System Public Purposes Expenditures

I am pleased to provide you with the information you requested on electricity system public purpose expenditures in Washington State from 1992 through 1995. Data for 1996 are not yet fully available; however, we are including some preliminary figures.

It is important to note that these figures represent costs only. They do not reflect the economic value of the resources acquired through these programs nor the other benefits they provide. Expenditures on cost-effective energy efficiency measures deliver net savings to consumers because they reduce the need for more expensive energy sources.

The expenditures are grouped into the major public purpose categories recommended by the Regional Review - renewable energy, low-income weatherization, conservation, and separately low-income energy bill assistance. We have also included a summary of our sources of information, comments on specific features of the data, and methodological assumptions. For clarity's sake, we have been intentionally brief in the information we provided to you.

Data supporting this summary have been provided to your staff.

Here are just a few brief comments on the information

- **Renewables:** Renewables expenditures reflect investments in non-hydroelectric resources only. We have excluded any expenditures for either new or renovated hydroelectric facilities, as do the Regional Review's public purpose funding recommendations. Hydro expenditures are about four times larger than spending on non-hydro renewables.
- **Low-Income Weatherization:** To put the low-income weatherization numbers into some perspective the expenditures listed provided weatherization for about 5,000 to 6,000 homes per year. Based on current census information, the Department of Community, Trade and Economic Development estimates that approximately 160,000 low-income household (125 percent of poverty level) are still in need of weatherization.
- **Conservation:** As you can see expenditures for electric energy conservation have declined dramatically since their 1994 peak. The Northwest Power Planning Council, estimates that more than 1,500 average MW cost-effective conservation resources are still available in the region, even accounting for the low marginal cost of new gas-fired generation. 1,500 average megawatts are enough energy to supply the needs of a city one and one-half times the size of Seattle. About half of that potential is in Washington State meaning that, according to the Council's numbers, over \$1 billion could be spent on cost-effective conservation in Washington. (Draft, Fourth Power Plan, 1996, p 6-6.)

Please do not hesitate to contact me if you have specific questions or additional data needs.

Attachment below.

Memorandum

To: K. C. Golden
From: Alan Mountjoy-Venning
Date: 9/26/97
Re: Washington Expenditures on Public Purposes

The following table summarizes my efforts to date to provide a look at expenditures in Washington State in recent years on "public purposes," such as those detailed in Table 1, *Annual Allocation of Funds to Conservation, Renewable Resources, and Low-Income Energy Services* in the Final Report of the Comprehensive Review of the Northwest Energy System.

I have grouped the data into three main categories reflected in the title of Table 1 from the Review:

- *conservation*
- *renewables*
- *low-income weatherization*

Also depicted, but not part of the public purposes totals, are figures for low income housing energy assistance.

Certain aspects of these data are characterized below, and some are detailed further where specific adjustments are discussed. Staff should be aware of these assumptions and adjustments to help ensure that we are portraying the available data in a manner consistent with the intent of this exercise.

- All of the figures are gross figures; they do not net out the value of the energy resource acquired. That is, conservation (including low-income weatherization) and renewable resource development produce a resource with identifiable value to utilities and the state as a whole. These resource values have not been subtracted out of the expenditure data.
- Efforts have been made to avoid double counting of expenditures, both by those who provided data to us, and by us during the course of assembling the disparate sources. Key considerations were adjusting downward Bonneville Power Administration (BPA) reported data by amounts spent by other utilities who were partially or fully funded by BPA, and reducing conservation expenditures by amounts equivalent to utility and BPA reported amounts detailed in the weatherization data.
- Initial evidence indicates that our main source of conservation data excluded "overhead" from their utility expenditures. We would want to add those back in -- when they are identified -- as a legitimate part of the overall conservation effort.
- Adjustments have been made to represent Washington-specific data. In many cases, only regional or utility-wide data are available. Also challenging is reconciling data reported by calendar years with BPA's Federal Fiscal Year (FFY) reporting

I believe the resulting data to be representative of the magnitude of spending in Washington by electric utilities and some public agencies for what are termed public purpose expenditures in the Regional Review. The figures are likely to be conservative; further work will likely result in an increase, albeit small, in the total funds expended.

Following are sources for the data used:

Renewable Energy

Jeff King at the Northwest Power Planning Council provided spreadsheets in which he developed estimates of Washington expenditures based on load factors.

Low-Income Weatherization

Carolyn Wyman from the Department of Community, Trade, and Economic Development provided information on low-income weatherization program expenditures. Some of the information on the various energy bill-paying assistance programs was obtained from other DCTED staff and directly from utilities.

Conservation

We used the Northwest Power Planning publication known as "The Green Book" which in turn relies on a database called NuTrak for historic conservation and demand-side management expenditures. We obtained preliminary output from the latest update of NuTrak to provide 1995 data. We also spoke with staff at the Power Council and with contractors who maintain NuTrak to arrive at ways to depict numbers representative of Washington's share or regional expenditures. Staff at the Washington Utilities and Transportation Commission also assisted in determining or estimating the Washington portion of regional regulated utilities' conservation expenditures.

Every effort has been made to make these figures as conservative as possible. My adjustments to the data include:

- Adjusting weatherization data to approximate that portion spent on electrically-heated residences.
- An amount equivalent to the total of the Energy Matchmaker weatherization program and BPA weatherization funds has been subtracted from the annual utility DSM totals on the assumption that the utilities and the Power Planning Council included those costs in their figures. To show proportions best, depicting those totals in the weatherization portion seems appropriate.
- Applying a factor of 55% to BPA's conservation expenditure data to estimate the share spent in Washington. This factor represents the average proportion of BPA electricity sales made in Washington in recent years. **NOTE:** Many anecdotal references imply that this figure could be as high as 75%, especially in the years covered by this exercise, because of spending on major programs such as the Washington State Energy Code and the Manufactured Housing Assistance Program.
- Estimating that 7/10ths of Washington Water Power's reported conservation expenditures were made in Washington, based on estimates from the Power Council
- Using Utility and Transportation Commission staff estimates placing PacifiCorp conservation expenditures in Washington State at roughly one million dollars per year.

Note that each source may also have made adjustments to original data, such as the Power Council's efforts to net out Bonneville spending from reporting utilities' expenditure totals, and adjusting renewables data by applying Washington's share of BPA's load as a factor against them.

Expenditures in Washington for Renewable Energy, Electric Conservation, and Weatherization of Electrically-Heated Low-Income Residences 1992 - 1996

all figures in million nominal dollars, except percentages

	1992		1993		1994		1995		1996 est.	
Washington Electricity Revenues	\$3,014.8		3,248.9		3,446.0		3,626.0		3,673.0	
Renewables (1)	\$0.5	0%	1.3	1%	2.0	1%	4.7	3%	5.6	5%
Low-Income Weatherization	\$16.0	9%	15.2	7%	15.6	7%	14.8	11%	13.4	11%
Conservation	\$153.6	90%	193.6	92%	204.4	92%	121.7	86%	100.1	84%
TOTAL	\$170.1	100%	210.0	100%	222.0	100%	141.3	100%	119.1	100%
% of Washington Electricity Revenue	5.6%		6.5%		6.4%		3.9%		3.2%	
Energy Bill Assistance	\$22		20		24		22		18	
Low-Income Rate Relief (2)	\$5		6		6		5		7	

Notes:

(1) Renewables expenditures represent only spending on non-hydro sources; the Comp. Review specifically excludes hydro from renewables considerations.

(2) Two utilities, Seattle City Light and the Snohomish Public Utility District, are known to offer reduced rates to low-income customers. Seattle also offers emergency bill payment.

Actual data for the Seattle programs and estimates of the annual cost of the Snohomish program is represented here.

Data in italics include a significant proportion of estimated values.